

REMARKS

The Office Action dated August 31, 2006, has been reviewed carefully and the application has been amended in a sincere effort to place it in condition for allowance.

Claims 1-4 and 6-14 are pending in the application. Claims 15-20 have been cancelled herein, without prejudice, in response to the Restriction Requirement, but Applicant reserves the right to represent those claims in a continuation or divisional application. Claim 5 has been withdrawn as being directed to a non-elected species, but the Examiner has indicated that Claim 5 will be considered should Claim 1 be found to be allowable.

Claim Rejections – 35 U.S.C. §103

Claims 1-4, 6-8 and 10-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over United States Published Application No. 2004/0211668 to Montminy, et al. (“Montminy”), in view of United States Patent No. 6,030,718 to Fuglevand et al., (“Fuglevand”).

Applicant’s invention as set forth in representative claim 1, as amended, comprises in part:

A method of fabricating a membrane electrode assembly for use in a fuel cell, including the steps of:
(A)providing a mold that includes a first and second mold plate adapted to impart a desired shape to induce compression;

- (B) providing a lead frame, including at least a first lead frame component that is adapted to be received into said mold;
- (C) assembling a protonically conductive membrane with catalyst coatings on each of its major surfaces onto said first lead frame component;
- (D) placing said lead frame containing said membrane into the mold;
- (E) compressing said second mold plate onto said first mold plate;
- (F) introducing a moldable material in communication with said mold plates; and
- (G) allowing the moldable material to cure in said mold to solidify and form a frame around said membrane to produce a membrane electrode assembly for use in a fuel cell.

In sharp contrast, Montminy discloses a technique that may seal the fuel cell, but the technique does not teach inducing compression in the components of the fuel cell. As stated in Applicant's Specification: "In addition to sealing the fuel cell, the frame manufactured in accordance with the present invention also holds the components of the fuel cell in compression. Adequate compression is important for obtaining efficient current collection. Typically, compression is achieved by tight screws, bolts and other fasteners. However, in accordance with the present invention, compression in the fuel cell is introduced by the mold plates themselves. The mold cavity is designed in accordance with the invention such that when it closes, it compresses the cell to decrease the thickness dictated by the selected internal pressure." (See: Specification, Page 13, line 19 through Page 14, line 6).

Montminy fails to disclose, teach or suggest Applicant's claimed features of, briefly: providing a mold that includes a first and second mold plate adapted to impart a

desired shape to induce compression, providing a lead frame, and compressing the components. Accordingly, Montminy alone does not render obvious Applicant's invention of independent Claims 1, 6 and 14 due to the absence from Montminy of a suggestion of those features. Furthermore, Montminy alone does not render obvious the invention claimed in the remaining independent claims 7 and 11 because Montminy alone does not suggest a lead frame.

The Fuglevand reference teaches away from Applicant's invention even in view of its conductive member 195 because Fuglevand clearly teaches the use of screws 215. One of the advantages of the claimed invention is the avoidance of such screws. As stated in the Specification, "The frame also holds the components of the cell in compression, without the need for screws and nuts, which are thus completely eliminated." (Specification, Page 6, lines 15-17). Accordingly, Fuglevand does not alone render Applicant's claimed invention obvious. Furthermore, the combination of Fuglevand and Montminy still does not disclose or suggest Applicant's inventive features involving compression, as well as the feature of a lead frame that eliminates the need for screws and nuts as stated above.

It is thus respectfully submitted that Applicant's claimed invention, as claimed in the independent claims, and similarly, as claimed in the claims dependent therefrom, is patentable over the cited references.

Request for an Interview

Upon reading the Amendment and Remarks, the Examiner is requested to telephone the Applicant in order to further the prosecution of this invention.

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Respectfully submitted,

Rita M. Rooney
Rita M. Rooney
Reg. No. 30,585
CESARI AND MCKENNA, LLP
88 Black Falcon Avenue
Boston, MA 02210-2414
(617) 951-2500